Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended): A method of setting up a connection in at least one optical WDM transmission system with a plurality of switchable optical network nodes, at least one of the plurality of switchable optical network nodes having a wavelength converter, wherein for setting up a connection from a first optical network node over at least ~~one~~ two connection path ~~section~~ sections to an N^{th} optical network node, the method comprises the steps of:

forming a first connection vector for identifying WDM transmission channels available on ~~a following~~at least one connection path section between said first optical network node and said network nodes having a wavelength converter;

~~transmitting the first connection vector over the at least one optical WDM transmission system;~~

forming a ~~further~~ second connection vector, in the at least one optical network node having a wavelength converter, for identifying the available WDM transmission channels on the ~~following~~ at least one connection path section between said network nodes having a wavelength converter and said Nth optical network node; and

transmitting the ~~further~~ first and second connection vector over the at least one optical WDM transmission system; and

selecting at least one of the available WDM transmission channels in the first connection vector and at least one of the available WDM transmission channels in the second connection vector by at least one of the Nth optical network node and at least on optical network node having a wavelength converter.

Claim 2. (currently amended): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the step

of marking the available WDM transmission channels by the first connection vector and the ~~further~~ second connection vector.

Claim 3. (currently amended): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the steps of:

checking the available optical WDM transmission channels by each of the plurality of optical network nodes for availability with regard to a following connection path section; and

marking, if the checking of availability results in unavailability of the plurality of optical WDM transmission channels marked as available in the first connection vector and the ~~further~~ second connection vector, the unavailable channels as unavailable in the first connection vector and the ~~further~~ second connection vector.

Claim 4. (currently amended): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the step of indicating a dimension of the first connection vector and the ~~further~~ second connection vector by a number of optical WDM transmission channels provided in the optical WDM transmission system.

Claim 5. (currently amended): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the steps of:

~~selecting at least one of the available WDM transmission channels, available for the setting up of a connection and marked in the connection vector, by at least one of the N^{th} optical network node and at least one optical network node having a wavelength converter; and~~

indicating the ~~at least one of the available~~selected WDM transmission channels to preceding optical network nodes.

Claim 6. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the steps of:

selecting at least one of the available WDM transmission channels, available for the setting up of a connection and marked in the further connection vector, by at least one of the N^{th} optical network node and at least one further optical network node having a wavelength converter; and

indicating the at least one of the available WDM transmission channels to the preceding optical network nodes.

Claim 7. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the step of storing the first connection vector in at least the first optical network node having a wavelength converter.

Claim 8. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 1, the method further comprising the step of combining a plurality of WDM transmission channels to form a WDM channel group, wherein the setting up of a connection is carried out for a WDM channel group.

Claim 9. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 8, the method further comprising the steps of:

assigning, when setting up a connection for a WDM channel group, information indicating a number of connections to be set up to the connection vectors; and

including the information indicating the number of connections to be set up in the transmission.

Claim 10. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 5, the method further comprising the step of indicating the optical WDM transmission channels selected, for the setting up of the connection for each connection path section, to the preceding optical network nodes by at least one occupancy message.

Claim 11. (original): A method of setting up a connection in at least one optical WDM transmission system as claimed in Claim 10, the method further comprising the step of assigning the at least one occupancy message a validity range which specifies the connection path sections for which the occupancy message is valid.